

Work Order ID 53528

November 09, 2009 8:34:39 AM



Page 1

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Item Name: Replacement Skidtube

Stop



Start Date: 11/9/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 11/20/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: MF.

Date: 09-11-09

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2906

Rev B

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D209-669 bluefile & type labels per PPP D205-669-043 Chg 002

N/A

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Inspect mat'l D2500-1-190 for damage

2-Cut D2500-1-190 per Dwg D2906 if necessary Debur ends

3-Acid etch and Alodine tube per QSI 005 4.1

1 11/11/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53528

November 09, 2009 8:34:39 AM



Page 2

Item ID: D209-669-043
Revision ID: B
Item Name: Replacement Skidtube

Accept



Setup Start



Stop



Start Date: 11/9/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 11/20/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

① 0 3E 09/11/16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53528

November 09, 2009 8:34:39 AM

Page 3

Item ID: D209-669-043

Accept

Setup Start

Revision ID: B

Stop

Item Name: Replacement Skidtube

Start Date: 11/9/2009 Start Qty: 1.00

Cust Item ID:

Required Date: 11/20/2009 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Drill pilot holes using drill jig DT8149, DT8711-2 & DT8711-3 (Do not use cutting fluid)

2-Open holes to 0.500" as per Dwg D2906 without cutting fluid

3-Countersink holes as per Dwg D2906 without cutting fluid

4-Deburr and blow out all chips from inside of tube

5-Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting

Pick: Qty ☐ Part Number ☐ Description ☐ BatchA/R ☐ ☐ ☐ Sikaflex-291 ☐ 6112302 ☐ ☐

Sikaflex expire date: 01/21/12

Start Time: 3:50 Date: 9/11/11

Fin Time: 8AM Date: 9-11-12

pick:

Qty P/N description
1 D2926-3 WebB/N
B 53524

1 11/9/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53528

November 09, 2009 8:34:39 AM

Page 4

Item ID: D209-669-043
Revision ID: B
Item Name: Replacement Skidtube

Accept

Setup Start

Stop

Start Date: 11/9/2009 Start Qty: 1.00
Required Date: 11/20/2009 Req'd Qty: 1.00




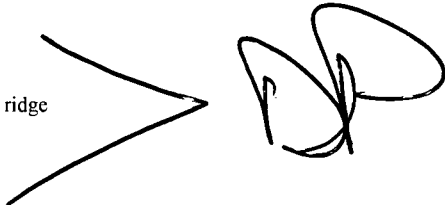

Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140  CNC Bend 1 CNC Delta 100 Bender	BENDING MACHINE - CROSSTUBES Memo 1-Bend as per program COB43FWD & COBRAFT on CNC Bender and Folio FT 2-Cut tubes as per Dwg. D2906 & per template DT8185B & DT8185BC	0.00 0.00							 9-11-12
150  Skidtubes Skidtubes	Skidtubes Memo 1-Cut tube as per dwg and ensure ends are perpendicular to ridge 2-Deburr ends 3-Prepare tube for welding, remove alodine as required.	0.00 0.00							 9-11-12
160  QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00							BE00 9-11-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53528

November 09, 2009 8:34:39 AM



Page 5

Item ID: D209-669-043
Revision ID: B
Item Name: Replacement Skidtube

Accept



Setup Start



Stop



Start Date: 11/9/2009 Start Qty: 1.00
Required Date: 11/20/2009 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170 Skidtubes	Large Fab	0.00							
Skidtubes	Memo 1-Weld crossbolt spacers D2579 as per Dwg. D2906 and QSI 004. For D2579 spacers, weld one side, pass 3/8" drill, weld other side, pass 3/8" drill A/R□□□ Aluminum Rod <i>M112507</i>	0.00				<i>BE</i>		<i>09/11/13</i>	
	2-Grind welds as per Dwg D2906 Grind flush ridge made from bending								
	3-Drill holes for wearplates using DT8217 Open holes to 19/64", adjust stopper not to hit web. Debur								
	4-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2906, Debur holes								
	5-Drill pilot holes for aft & fwd cap using DT8215 open holes to #6" Debur								
	6-Drill pilot holes for Tow ring using DT8091-3, open to .640" and Debur								
180 QC	QC10- Inspect visual per QSI004- ground welds	0.00							
Quality Control	Memo <i>⇒ Serial 116</i>	0.00				<i>40</i>	<i>4</i>		

① 11/11/16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53528

November 09, 2009 8:34:39 AM



Page 6

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Stop



Item Name: Replacement Skidtube

Start Date: 11/9/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 11/20/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00				(H)	/		
Quality Control									
200	Pressure Wash per QSI005 4.3	0.00							
HandFinish	Memo	0.00				(X)	/		
Hand Finishing									
210	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
Powdercoat	Memo	0.00				(X)	/		
Powder Coating									
	START TIME: 9:00 AM								
	OVEN TEMPERATURE: 320°F								
	FINISH TIME: 9:30 AM								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53528

November 09, 2009 8:34:39 AM



Page 7

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Item Name: Replacement Skidtube

Stop



Start Date: 11/9/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 11/20/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

220

QC3- Inspect Part Finish

0.00

BR

09-11-17

①.



QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53528

November 09, 2009 8:34:39 AM



Page 8

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Item Name: Replacement Skidtube

Stop



Start Date: 11/9/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 11/20/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

230

0.00



HandFinish

HandFinishing

Memo

0.00

Hand Finishing

1-Install inserts & wearplates as per Dwg. D2906. Use a drop of Sikaflex on insert holes before installing wearplates.

A/R ☐ ☐ ☐ Sikaflex-291

Sikaflex expire date: 10/20

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2906

3-Inspect for foreign object per QSI 024

4-Install D2855 Fwd & Aft Cap as per Dwg D2906 and seal Fwd & Aft Cap with Sikaflex. Clean excess adhesive.

A/R ☐ ☐ ☐ Sikaflex-291

Sikaflex expire date: 10/20

5-Wing Walk as per Dwg D2906 and QSI 005 4.4

Batch: 1112623

BR. 09-11-18. ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53528

November 09, 2009 8:34:39 AM



Page 9

Item ID: D209-669-043

Accept



Setup Start



Revision ID: B

Stop



Item Name: Replacement Skidtube

Start Date: 11/9/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 11/20/2009 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024	0.00 0.00							
250 Packaging Packaging	Packaging Memo Identify and pack for shipping as per PPPD209-669-043 Location: _____ PPP Rev: <u>PPP 53577</u>	0.00 0.00							
260 QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							

2) 8 or 1.8

⑩

/

/ 6914/20

②

09/11/26

R07-11-25

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 09, 2009 8:34:39 AM

Page 1

Work Order ID: 53528

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube





Start Date: 11/9/2009

Required Date: 11/20/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2500-1-190RevU/R		Manufactured	No			110	Each	0.0000	1.0000			
						B 50166				1	11/9/11	
Ext'n -'I' Beam Tube 4"												
D2926-3RevA		Manufactured	No			110	Each	1.0000	1.0000			
												
Web												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST 1353524 1
52066 1

1 11/9/11

D2579RevE Manufactured No



Crossbolt Spacer

170 Each 615.0000 19.0000



Warehouse Loc Qty Loc Code
Location

Main Warehouse

LG 493
51525 493

Main Warehouse

ST 122
43988 4
46434 4
46956 2
47797 9
48272 2
51314 71
51315 30

19 EC 09/11/13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 09, 2009 8:34:39 AM

Page 2

Work Order ID: 53528



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 11/9/2009

Required Date: 11/20/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2855RevA		Manufactured	No			230	Each	105.0000	2.0000			
Cap												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP6

105

50513

1

50770

4

51539 ✓

100

2 BK 09-11-18

AN3-5A

Purchased

No

230

Each

2,221.000

4.0000



Bolt

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

2221

100188

188

105057 ✓

2033

4 BK 09-11-18.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 09, 2009 8:34:39 AM

Page 3

Work Order ID: 53528

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube


Comments:

Start Date: 11/9/2009

Required Date: 11/20/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN960JD10L  Washer		Purchased	No			230	Each	5,719.000	4.0000			

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

ST

5719

101291

16

104885

153

105793

236

109632 ✓

410

110985

4904

4 BR 02-11-18.

* ALS7-1032-130

Purchased

No

230

Each

1,880.000

44.0000

Insert

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

ST

1880

105855

16

108606

52

111529

1488

111779

313

112772

11

HH BR 02-11-18.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 09, 2009 8:34:39 AM

Page 4

Work Order ID: 53528

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube



Comments:

Start Date: 11/9/2009

Required Date: 11/20/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN3C4A 		Purchased	No			230	Each	944.0000	44.0000			
BOLT												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST	944	
112314	13	
112720	12	
112724	3	
112794	316	
112829 ✓	500	
112991	100	

44 BR 09-11-18

AN960C10L



washer

Purchased

No

230

Each

3,906.000

44.0000



Warehouse Loc Qty Loc Code
Location

OFFSHORE

FG	100	
103585	100	

Main Warehouse

ST	3806	
112116 ✓	628	
112612	2178	
112933	1000	

44 BR 09-11-18

November 09, 2009 8:34:39 AM

Shop Packet Print

Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 09, 2009 8:34:39 AM

Page 5

Work Order ID: 53528

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube


Start Date: 11/9/2009

Required Date: 11/20/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2594-3RevC  O-Ring, 205 Skidtube		Manufactured	No			230	Each	994.0000	14.0000			

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP 27

51613 27

Main Warehouse

ST 967

52562✓ 967

14 BK 09-11-18.

D2594-1RevC

Manufactured No

230

Each

585.0000

14.0000



Plug, 205 Skidtube

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST 585

42221 16

42807 92

43884 3

46435 2

51527 9

51757✓ 463

14 BK 09-11-18.

November 09, 2009 8:34:39 AM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 6

November 09, 2009 8:34:39 AM

Work Order ID: 53528



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 11/9/2009

Required Date: 11/20/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3564-9RevD		Manufactured	No			230	Each	31.0000	1.0000			



Wearshoe

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
FP19	29	
51675 ✓	7	
52593	22	
Main Warehouse		
ST	2	
44659	1	
45825	1	

1 11-09-11-18.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 09, 2009 8:34:39 AM

Page 7

Work Order ID: 53528



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 11/9/2009

Required Date: 11/20/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3564-11RevD		Manufactured	No			230	Each	43.0000	1.0000			



Wearshoe

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
FP	10	
51905	10	
Main Warehouse		
FP19	31	
51594 ✓	8	
52125	23	
Main Warehouse		
ST	2	
45823	1	
50112	1	

1 of 11-18.

November 09, 2009 8:34:39 AM

Shop Packet Print

Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 09, 2009 8:34:39 AM

Page 8

Work Order ID: 53528

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube


Start Date: 11/9/2009

Required Date: 11/20/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3564-5RevD  Wearshoe		Manufactured	No			230	Each	34.0000	1.0000			

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
OFFSHORE		
FG	2	
34806	2	
Main Warehouse		
FP19	16	
51655	8	
51925	8	
Main Warehouse		
ST	16	
45824	1	
47433	1	
52595 ✓	14	

1 BR 09-11-18.

November 09, 2009 8:34:39 AM

Shop Packet Print

Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 09, 2009 8:34:39 AM

Page 9

Work Order ID: 53528

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube

Comments:

Start Date: 11/9/2009

Required Date: 11/20/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3566-1RevC		Manufactured	No			230	Each	20.0000	2.0000			

Gasket

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
FP	15	
52512	15	
Main Warehouse		
ST	5	
46349	1	
51218	1	
51259	3	

53455

2 BF 09-11-18.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 09, 2009 8:34:39 AM

Work Order ID: 53528



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 11/9/2009

Required Date: 11/20/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3566-5RevC		Manufactured	No			230	Each	34.0000	1.0000			

Gasket

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
FP	10	
51929	10	
Main Warehouse		
FP19	20	
52909 ✓	20	
Main Warehouse		
ST	4	
36113	1	
46186	1	
47318	1	
51260	1	

1 11/09-11-18.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



QTY -041	QTY -043	Part Number	Description
X		D2906-041	SKIDTUBE ASSEMBLY
	X	D2906-043	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
22	19	D2579	CROSS BOLT SPACER
12	14	D2594-1	PLUG
12	14	D2594-3	O-RING
2	2	D2855	AFT CAP
1		D2926-1	WEB
	1	D2926-3	WEB
1	1	D3564-9	WEARSHOE (REPLACES D2577-1)
1	1	D3564-11	WEARSHOE (REPLACES D2577-3)
1	1	D3564-5	WEARSHOE (REPLACES D2577-5)
1		D3564-15	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1		D3566-15	GASKET
50	44	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or ALS4-1032-130	INSERT
50	44	AN3C4A	BOLT
4	4	AN3-5A	BOLT
50	44	AN960C10L	WASHER
4	4	AN960JD10L	WASHER

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) LENGTH OF D2500-1 EXTRUSION BEFORE BENDING = 190 INCHES.
- 3) INSERT D2926-1/-3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 6) USE DART DRILL TEMPLATE DT2906-041T1 (D2906-041) OR DT2906-043T1 (D2906-043) TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION C-C AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/291.
- 7) WELDING TO BE DONE PER DART QSI 004.
- 8) FINISH:
ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2926-1/-3 WEB. POWDER COAT ASSEMBLY WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- 9) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (12 PLACES).
- 10) ALL DIMENSIONS ARE IN INCHES.

RELEASED

07.09.04

#53528

B	UPDATE DRAWING FORMAT; RE-ORGANIZE; ADD STAINLESS STEEL WEARPLATES AND GASKETS CHANGE WEARPLATE HARDWARE TO SS; PG 1: ADD NOTE 10; PG 2 C7: REMOVE AFT Ø0.640 HOLE FROM -041; PG 3 C3: CORRECTED -043 CAP P/N; PG 3 D7: 38 PLACES WAS 44 PLACES;	CB	07.08.21
A	NEW ISSUE	CP	04.06.22
REV.	DESCRIPTION	BY	DATE
DESIGN	4P	DART AEROSPACE LTD	
DRAWN	CB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. B
MFG. APPR.	21	D2906	SHEET 1 OF 3
APPROVED	100	TITLE	SCALE
DE APPR.	11	AH-1 (209) SKIDTUBE ASSEMBLY	NTS
DATE	07.08.21	COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

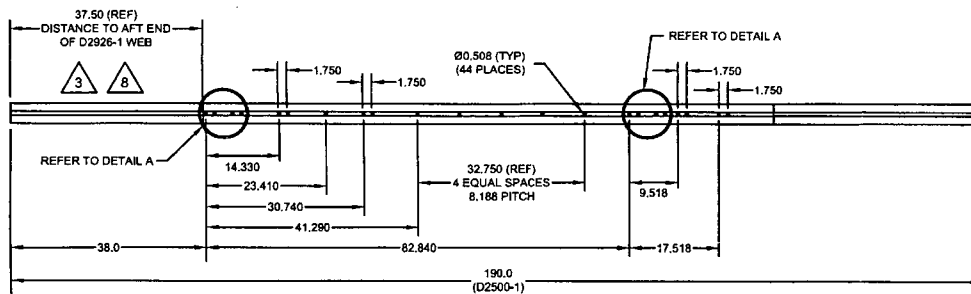
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval, Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

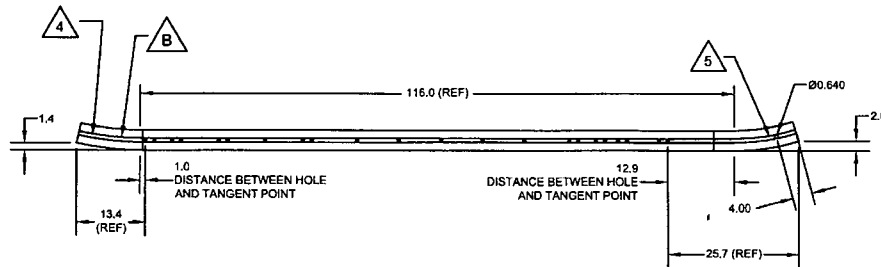
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

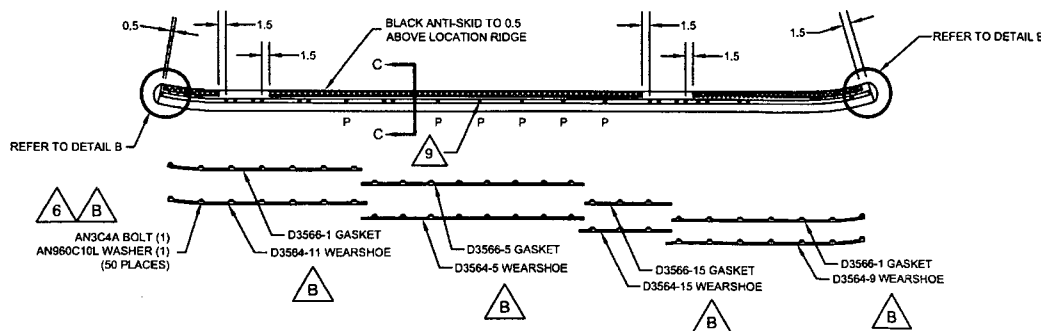
NOTE: Date & initial all entries



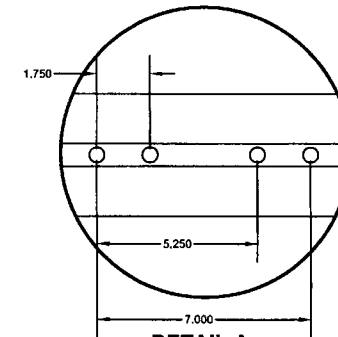
D2906-1 DRILLING DETAIL



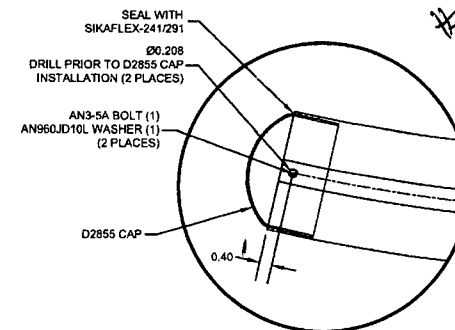
D2906-041 BENDING AND CUTTING DETAIL



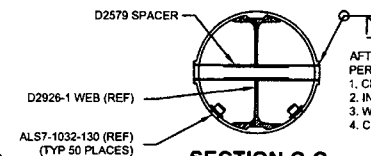
D2906-041 ASSEMBLY DETAIL



**DETAIL A
SCALE 1:4**



**DETAIL B
SCALE 1:4**



**SECTION C-C
SCALE 1:4**

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (22 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

RELEASED

07.09.04

DESIGN	9P	DART AEROSPACE LTD	
DRAWN	C.B.	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. B
MFG. APPR.	21	D2906	SHEET 2 OF 3
APPROVED	10	TITLE	SCALE
DE APPR.	11	AH-1 (209) SKIDTUBE ASSEMBLY	1:24
DATE	07.08.21	COPYRIGHT © 2004 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

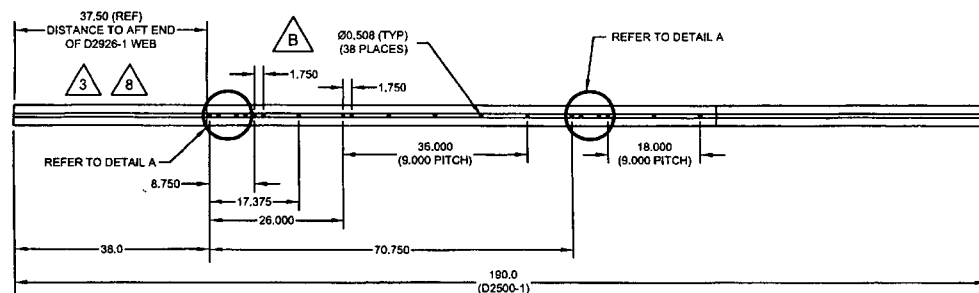
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

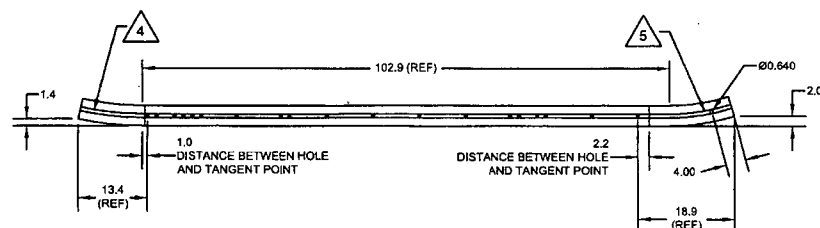
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

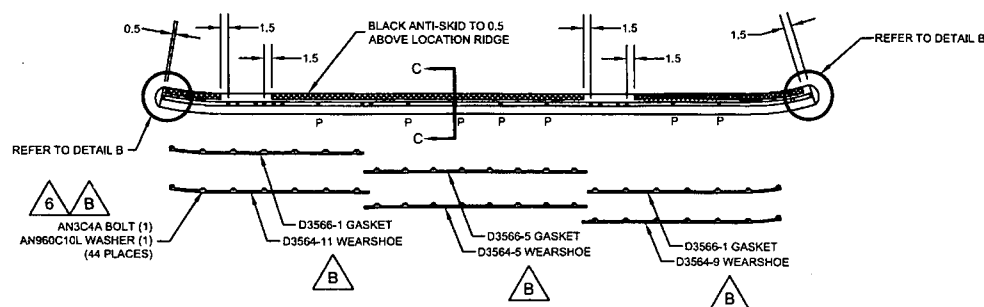
NOTE: Date & initial all entries



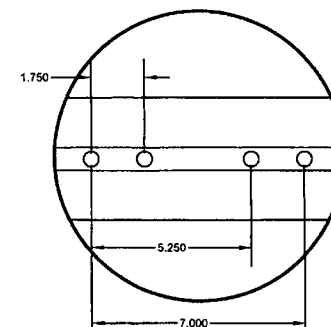
D2906-3 DRILLING DETAIL



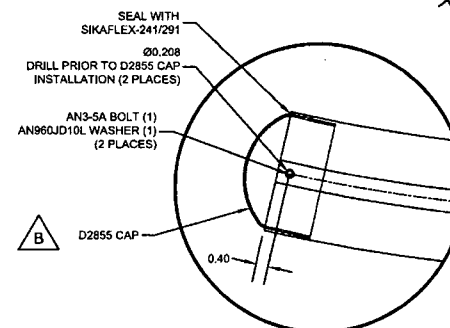
D2906-043 BENDING AND CUTTING DETAIL



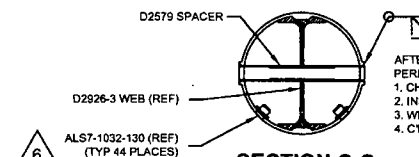
D2906-043 ASSEMBLY DETAIL



DETAIL A
SCALE 1:4



DETAIL B
SCALE 1:4



SECTION C-C
SCALE 1:4

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR 0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (22 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C-BORE D2579 SPACER TO 0.437 X 1.00 DEEP

RELEASED

07.09.04

DESIGN	90	DART AEROSPACE LTD	
DRAWN	CB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. B
MFG. APPR.	PH	D2906	SHEET 3 OF 3
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	AH-1 (209) SKIDTUBE ASSEMBLY	1:2
DATE	07.08.21	COPYRIGHT © 2004 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 215

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 53175
Part number: D205-634.041
Description: 205 skid tube
Welding Process: Tig[☒] Mig[]
Base material: Aluminium
Current: AC[] DC[☒]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier [Signature] Date of Test Coupon 09.11.02
Welder [Signature] Date of Test Coupon 09.11.02

The above named individual is qualified in accordance with AWS D17.1.2001 to weld